

(19) World Intellectual Property
Organization
International Bureau



550411

(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/088363 A1

(51) International Patent Classification⁷: **G02B 1/00, G03F 7/20**

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(21) International Application Number:
PCT/PT2003/000004

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 25 March 2003 (25.03.2003)

(25) Filing Language: English

(26) Publication Language: English

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(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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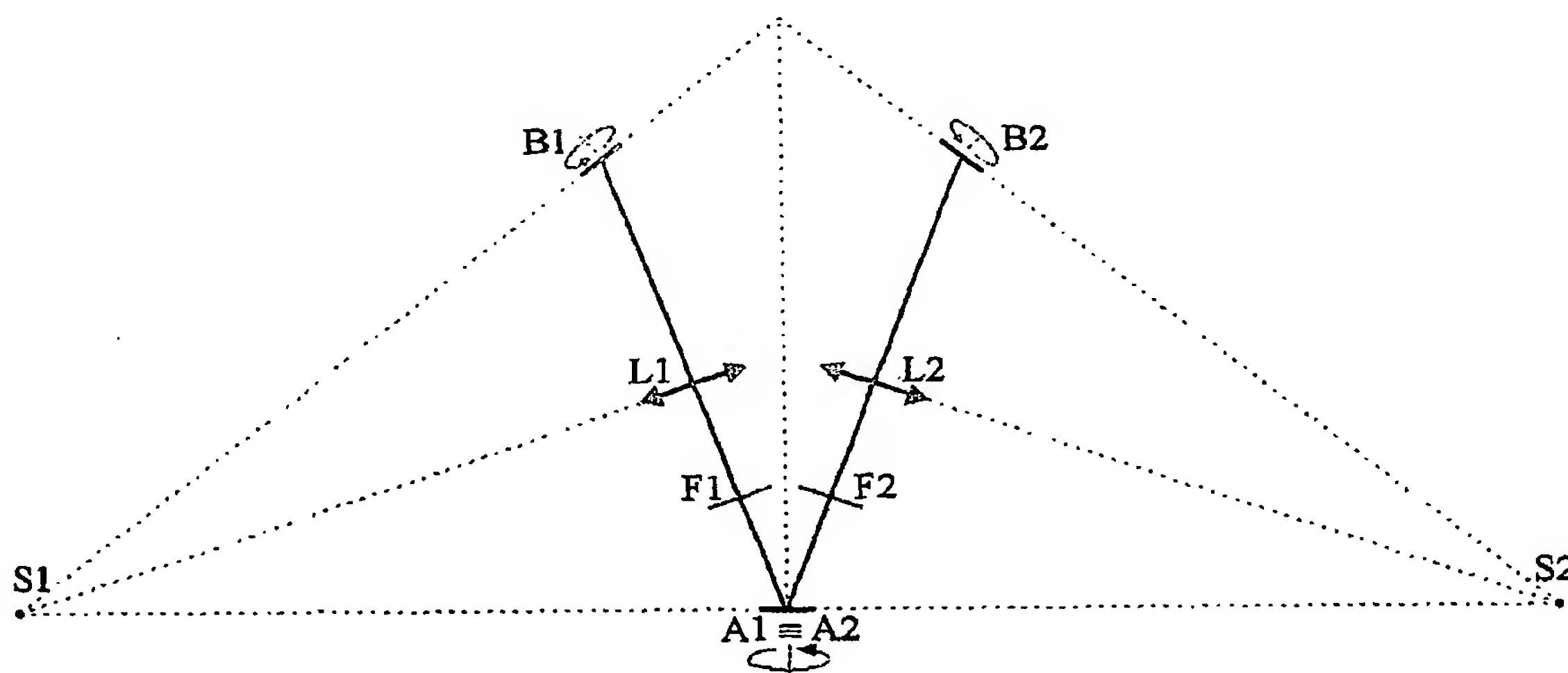
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Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MASKLESS OPTICAL INTERFEROMETRIC LITHOGRAPHY



(57) Abstract: An optical device generated by interferometric lithography, in the form of a surface relief pattern that diffracts light, to be used mainly in optical security, produced by optical systems compliant with the *Schimpflug and hinge Rules* containing: two identical lenses L1 and L2, two physical object location B1 e B2 and one image plane A1=A2. No physical mask is needed throughout the origination process, thus eliminating any kind of border effects. The device actually implements an in-plane focused hologram, with a complex surface pattern of valleys and ridges with a non-trivial generating function, which is, by itself, both an additional security feature of the device and its fingerprint. The time to generate the optical device is proportional to the number of colours specified for the reference geometry and not depend on the overall area of the optical device.

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